Proposal for Entrepreneurial Innovation Management: An Integrative Systematic Review

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Abstract

Organizational innovation can suggest innovations in processes, products, services and management. This study discusses innovation management from an entrepreneurial perspective, and as a support for organizational development. The economic strength, quality of life and competitiveness of an organization in a globalized world are directly linked to issues surrounding entrepreneurship and innovation management. In most organizations there is a strong tendency to acquire new technologies and continuous process improvement. On the other hand, due importance is not given to people, i.e. the individuals primarily responsible for entrepreneurial and innovative initiatives. This is a literature review with emphasis on a systematic review, which comprised a large number of papers on innovation in processes, products and services. Concerning people management, however, there were very few papers. At a corporate level, innovation management may seem very complex, because it is usually found with technical barriers that may increase costs. Based on entrepreneurship concepts, we suggest organizational management geared to people capable of developing competitive advantage.

Keywords: Entrepreneurial Management, Innovation, organizational development

1. Introduction

In an innovative company focused on entrepreneurship, as (Barlett & Ghostal, 2000) advocate, innovation management is manifested in the entrepreneur's capabilities, such as to:

- ✓ Identify and develop employees;
- ✓ Identify or even create opportunities;
- ✓ Facilitate employees' growth and development;
- ✓ Establish conditions for individual performance.

Innovative management is thus a risky management where the manager is an entrepreneur of vision who sees possibilities for the people in the organization. The complexity of organizational growth nowadays is related to the search for entrepreneurship skills and managerial innovation, and it means to go against management practices rooted in traditional management concepts. This new vision demands understanding of such complexity. In view of that, the following question was made: How can Entrepreneurial Innovation Management support organizational development? In this quest, a general objective for the present study was formulated, as follows:

√To identify, through a systematic review, the contribution of entrepreneurial innovation management to organizational development.

A systematic review was carried out using the Scopus Elsevier and Ebsco Host databases. The search did not find many papers on entrepreneurial innovation management as a support for organizational development.

Due to this gap, only one substantial contribution was found presenting alternatives for companies seeking organizational development through management of people, in an empirical and theoretical investigation. In line with this scenario, the following specific objectives were defined, which also boosted the general objective previously formulated.

- ✓ To conduct a systematic review using the Scopus Elsevier and Ebsco Host databases;
- ✓ To demonstrate results achieved by organizations that used entrepreneurial innovation management as a support for organizational development;
- ✓ To present alternatives of entrepreneurial innovation management for companies seeking organizational development.

Additionally, when it comes to organizational development one has to consider what (Barbieri & Alvares, 2003, p. 45) stated, that "inventing is something essentially human" so innovation is seen as "an interpersonal process" because "people invent and organizations innovate". Thus, innovation management enables development and organizational growth through people's knowledge supporting innovation and creativity. Innovation is something necessary and is the most efficient way to deal with market fluctuations, facilitating the implementation of organizational changes. Innovation management is seen as a solution that can efficiently support organizational growth by generating competitive advantage. While organizations recognize innovation as the primary and central factor for survival in an increasingly globalized and competitive market environment, most managers have a limited view of human potential for innovation within organizations, which leads to different understandings of the topic.

Over the years various management models have been adopted to find an advantage that sustains organizational growth and competitiveness. Quality Management, Strategic Planning and Strategic Management systems are examples of initiatives that have been adopted in many companies. Currently, it cannot be said that old initiatives will not provide positive results. Despite innovation management is not a new concept, it has been characterized as a model that, if properly understood and applied, can facilitate organizations to reinvent themselves promptly and get prepared for the market.

The great challenge of innovation management is to develop an adequate organizational framework which encompasses management of people as well as of products and services, processes and technology. A right balance can ensure the long awaited stability and growth, and can provide the organization with competitive advantage.

2. Systematic Review

This section aims to present papers on entrepreneurial innovation management in various organizational aspects such as people, processes, products and services. To that end, a systematic review theoretically supporting this study was conducted using the Scopus Elsevier and Ebsco Host databases.

The search in the databases was done during the months of August, September and November of 2013. The results of the systematic review will be described below.

The databases of CAPES (Coordination for the Improvement of Higher Education Personnel) was considered for the search, since they cover various areas of knowledge and store a greater number of articles, reviews and references from the scientific literature. However, the Elsevier Scopus and Ebsco Host databases were chosen for this study because they ensure an indexed search of contents.

The systematic review was performed following the steps and procedures determined by the Cochrane Handbook (available at http://www.cochrane.org), also based on (Banningan, Droogan, and Entwistle,1997). For the review, 8 searches were done in each database using four different terms. For each defined term, 2 searches were carried out where:

- ✓ The first search (P1) did not consider exclusion criteria;
- ✓ The second search (P2) took into consideration the following exclusion criteria:
- ✓ Time Period: 2009-2013:
- ✓ No restriction of area:
- ✓ Type of documents: papers, articles and reviews. In the Ebsco Host database, the type scientific journal was used.

The terms used in the search were as follows:

✓Term 1 (T1) - "ENTREPRENEUR* MANAG*" OR "ENTERPRIS* MANAG*";

✓Term 2 (T2) - "MANAG* OF INNOVAT*" OR "INNOVAT* MANAG*";

✓ Term 3 (T3) - "INNOVAT* ENTREPRENEUR* MANAG*" OR "INNOVAT* ENTERPRIS* MANAG*":

✓Term 4 (T4) - "ENTREPRENEUR* MANAG*" OR "ENTERPRIS* MANAG *"

OR "MANAG* OF INNOVAT*"

OR "INNOVAT* MANAG*"

OR "INNOVAT* ENTREPRENEUR* MANAG*"
OR "INNOVAT* ENTERPRIS* MANAG*"

The eight conducted searches were identified as follows:

Table 1: Systematic Review Reference Table

Research	Code	Terms Used	
1	T1P1	Term 1 (T1)	
2	T1P2	Term 1 (T1)	
3	T2P1	Term 2 (T2)	
4	T2P2	Term 2 (T1)	
5	T3P1	Term 3 (T3)	
6	T3P2	Term 3 (T3)	
7	T4P1	Term 4 (T4)	
8	T4P2	Term 4 (T4)	

Source: Authors, 2013

Up to 20 titles were selected for each search, where 10 of them represent the most relevant ones and the other 10 the most cited ones. Duplicate titles were discarded. The Ebsco Host database does not offer a tool to search for "most cited" so the 20 most relevant titles were selected. At the end of the search process, there was a total of 40 titles. From this group, the common titles from the two databases were discarded. Subsequently, the papers' abstracts were read, allowing for reflection about the topic and then understanding the scenario of the problem under investigation.

2.1 Results of the Searches

2.1.1 Ebsco Host Database

Search 1 - T1P1

The first search (T1P1) used the terms "ENTREPRENEUR* MANAG*" OR "ENTERPRIS* MANAG*" without applying exclusion criteria. The search returned 122,333 documents, starting from 1875. The 20 most relevant titles were selected. For this selection, 36 titles were discarded to keep the 20 most relevant ones in PDF format, allowing for retrieval. 3 of the 36 selected titles were available in HTML format, 20 in PDF format and 13 provided only an abstract. Regarding the types of documents found, the search returned 1 case study, 3 newspaper articles, and 32 papers.

Search 2 - T1P2

The second search (T1P2) used the terms "ENTREPRENEUR* MANAG*" OR "ENTERPRIS* MANAG*" applying exclusion criteria. The search returned 10,394 documents, starting from 2009. The 20 most relevant titles were selected. For this selection, 28 titles were discarded to keep the 20 most relevant ones in PDF format, allowing for retrieval (download). 1 of the 28 selected titles was available in HTML format, 20 in PDF format, and 7 provided only an abstract.

Regarding the types of documents found, the search returned 1 case study, 1 newspaper article, and 26 papers. Comparing the results of T1P1 and T1P2, there were 15 occurrences of duplicate titles.

Search 3 - T2P1

The third search (T2P1) used the terms "MANAG* OF INNOVAT*" OR "INNOVAT* MANAG*" without applying exclusion criteria. The search returned 1,874 documents, starting from 1961. The 20 most relevant titles were selected. For this selection, 23 titles were discarded to keep the 20 most relevant ones in PDF format, allowing for retrieval (download). 20 of the 23 selected titles were available in PDF format, and 3 provided only an abstract. Regarding the types of documents found, the search returned 1 case study, 2 newspaper articles, and 20 papers.

Search 4 - T2P2

The fourth search (T2P2) used the terms "MANAG* OF INNOVAT" OR "INNOVAT* MANAG*" without applying exclusion criteria. The search returned 484 documents, starting from 1961. The 20 most relevant titles were selected. For this selection, 29 titles were discarded to keep the 20 most relevant ones in PDF format, allowing for retrieval (download). 1 of the 29 selected titles was available in HTML format, 20 in PDF format, and 8 provided only an abstract. Regarding the types of documents found, the search returned 1 case study, 3 newspaper articles, and 25 papers. Comparing the results of T2P1 and T2P2, there were 6 occurrences of duplicate titles, with a title that was repeated 3 times.

Search 5 - T3P1

The fifth search (T3P1) used the terms "ENTREPRENEUR* INNOVAT* MANAG*" OR "INNOVAT* ENTERPRIS* MANAG*" without applying exclusion criteria, where no results were found.

Search 6 - T3P2

The sixth search (T3P2) used the terms "INNOVAT* ENTREPRENEUR* MANAG*" OR "INNOVAT* ENTERPRIS* MANAG*" applying exclusion criteria, where no results were found.

Search 7 - T4P1

The seventh search (T4P1) used the terms "ENTREPRENEUR* MANAG*" OR "ENTERPRIS* MANAG*" OR "MANAG*" OR "INNOVAT*" OR "INNOVAT* MANAG*" OR "ENTREPRENEUR* INNOVAT* MANAG*" OR "INNOVAT* ENTERPRIS* MANAG*" without applying exclusion criteria. The search returned 124,121 documents, starting from 1875. The 20 most relevant titles were selected. For this selection, 49 titles were discarded to keep the 20 most relevant ones in PDF format, allowing for retrieval (download). 20 of the 49 selected titles were available in PDF format and 29 provided only an abstract. Regarding the types of documents found, the search returned 49 papers.

Search 8 - T4P2

The eighth search (T4P2) used the terms "ENTREPRENEUR* MANAG*" OR "ENTERPRIS* MANAG*" OR "MANAG* OF INNOVAT*" OR "INNOVAT* MANAG*" OR "ENTREPRENEUR* INNOVAT* MANAG*" OR "INNOVAT* ENTERPRIS* MANAG*" without applying exclusion criteria. The search returned 10,868 documents, starting from 2009. The 20 most relevant titles were selected. For this selection, 28 titles were discarded to keep the 20 most relevant ones in PDF format, allowing for retrieval (download). 20 of the 28 selected titles were available in PDF format, 1 in HTML format, and 7 provided only an abstract. Regarding the types of documents found, the search returned 1 case study, 3 newspaper articles, and 24 papers. Comparing the results of T4P1 and T4P2, there were six occurrences of duplicate titles.

Selection of the 20 most relevant titles

At this stage, 30 documents from T1P2, 29 documents from T2P2 and 28 documents from T4P2, totaling 87 documents were used. Subsequently, 27 duplicate titles were eliminated. By reading the abstracts, it was possible to choose the 20 most relevant titles from the search in the Ebsco Host database. The 20 most relevant selected titles are shown in Table 2 below.

Table 2: List of Most Relevant Selected Titles - Ebsco Host

Title	Year
A Proposed Innovation Management System Framework – A Solution for Organizations Aimed for	2012
Obtaining Performance.	
Innovation Management: Part 1 A Breakthrough Approach to Organizational Excellence.	
Teaching Case: Innovation Management in Gillette.	
A New Approach to the Management of Innovation Policies in the Role of Sustainable Development.	
Improving the success of radical innovation projects within established firms: engaging employees across different hierarchal levels.	2012
Knowledge management for pro-poor innovation: the Papa Andina case.	
Leading Innovation Change - The Kotter Way.	2011
Managerial Improvement and Technological Innovation.	2011
A Longitudinal Study of Innovation Management in the Medical, Hospital and Dental Care Equipment Industry in Ribeirão Preto.	2011
A neural network-based approach of quantifying relative importance among various determinants toward organizational innovation.	2012
Das Management von Innovationsfähigkeit - oder was Manager von Cockpit-Teams lernen können	
Innovation Management for SMIs in Ciudad Guayana.	
Innovation Networks in Logistics-Management and Competitive Advantages.	
Ideas are not innovations.	2011
Private Enterprise Management Mode Selection Based on the Life Cycle Theory.	
Issues of Social Innovations among Social Organizations in Lithuania.	
Policies, Management and Innovation Research Groups for Nursing Excellence.	
Self-Employed Graduate Entrepreneurs And Management Of Small And Medium Enterprises (SMEs) In Lagos State, Nigeria.	
Securing intellectual assets: integrating the knowledge and innovation dimensions.	
Control Over Employment Practice in Multinacionals: Subsidiary Functions, Corporate Structures and National Systems.	

Source: Authors, 2013

2.1.2 Scopus Elsevier Database

Search 1 - T1P1

The first search (T1P1) used the terms "ENTREPRENEUR* MANAG*" OR "ENTERPRIS* MANAG*" without applying exclusion criteria. The search returned 1,601 documents, starting from 1955 to 2013. In 1955 there was no more than 1 title. In the 1960s there was no title, and in the 1970s only 1 title appears (1972). Thereafter there was a growing number of titles and in 2008 there was a peak of virtually double the number of titles previously found, reaching an amount of 154.

In total, 1,601 titles were considered and all of them offered an abstract.

Search 2 - T1P2

The second search (T1P2) used the terms "ENTREPRENEUR* MANAG*" OR "ENTERPRIS* MANAG*" applying exclusion criteria previously defined. The search returned 268 documents, starting from 2009. The 10 most cited titles and the 10 most relevant ones were selected. Table 3 will show these results.

Search 3 - T2P1

The third search (T2P1) used the terms "MANAG* OF INNOVAT*" OR "INNOVAT* MANAG*" without applying exclusion criteria. The search returned 311 documents, starting from 1970. The 10 most cited titles and the 10 most relevant ones were selected.

Search 4 - T2P2

The fourth search (T2P2) used the terms "MANAG* OF INNOVAT*" OR "INNOVAT* MANAG*" applying exclusion criteria. The search returned 82 documents, starting from 2009. Again, the 10 most cited titles and the

10 most relevant ones were selected. Comparing the results of T2P1 and T2P2, there were no occurrences of duplicate titles.

Search 5 - T3P1

The fifth search (T3P1) used the terms "INNOVAT* ENTREPRENEUR* MANAG*" OR "INNOVAT* ENTERPRIS* MANAG*" without applying exclusion criteria. The search resulted in only two titles selected by their relevance, once they had not been cited.

Search 6 - T3P2

The sixth search (T3P2) used the terms "INNOVAT* ENTREPRENEUR* MANAG*" OR "INNOVAT* ENTERPRIS* MANAG*" applying exclusion criteria. No result was found, except for two conference papers when applying exclusion criteria.

Search 7 - T4P1

The seventh search (T4P1) used the terms "ENTREPENEUR* MANAG*" OR "ENTERPRIS* MANAG*" OR "MANAG* OF INNOVAT*" OR "INNOVAT* MANAG*" OR "INNOVAT* ENTREPENEUR* MANAG*" OR "INNOVAT* ENTERPRIS* MANAG*" without applying exclusion criteria. The search returned 5,073 documents, starting from 1975. The 10 most cited titles and 10 most relevant ones were selected, repeating 4 titles between T4P1 and T4P2. There was also 1 repeated 1 title between T4P1 and T1P1.

Search 8 - T4P2

The eighth search (T4P2) used the terms "ENTREPENEUR* MANAG*" OR "ENTERPRIS* MANAG*" OR "MANAG* OF INNOVAT*" OR "INNOVAT* MANAG*" OR "INNOVAT* ENTREPENEUR* MANAG*" OR "INNOVAT* ENTERPRIS* MANAG*" applying exclusion criteria. The search returned 1222 documents, starting from 2009. The 10 most cited titles and the 10 most relevant ones were selected. Comparing the results of T4P1 and T4P2, there were occurrences of duplicated titles. Table 3 displays the 20 most relevant titles in the Scopus Elsevier database.

Table 3: List of Selected Titles - Elsevier Scopus

Title	Year	
Business models, business strategy and innovation.		
Avatar-based innovation: Using virtual worlds for real-world innovation.		
Open innovation: State of the art and future perspectives.		
The past and the future of international entrepreneurship: A review and suggestions for developing the field.		
Evolutionary approaches for sustainable innovation policies: From niche to paradigm?		
An interdisciplinary perspective on IT services management and service science.		
Fashion waves in information systems research and practice.		
Designing long-term policy: Rethinking transition management.		
Adaptive management in agricultural innovation systems: The interactions between innovation networks and their environment.	2010	
Community engineering for innovations: The ideas competition as a method to nurture a virtual community for innovations.	2009	
Empirical analysis and classification of innovation management software.		
The evolving impact of combinatorial opportunities and exhaustion on innovation by business groups as market development increases: The case of Taiwan.	2013	
Attributes of innovative companies in diverse innovation typologie.		
Productive re-structuring, state administration reform and educational management.	2009	
Implementing open source software to conform to national policy.	2013	
Strategic forecasting: Theoretical development and strategic practice.		
The organizational shift-key factor in developing corporate enterprises.		
Towards Systematic Business Model Innovation: Lessons from Product Innovation Management.		
Individuals' Innovation Response Behavior: A Framework of Antecedents and Opportunities for Future Research.		
Does strategic planning enhance or impede innovation and firm performance?		

Source: Authors, 2013

2.2 Selection of the 20 most Cited and Relevant Titles

At this stage, the papers selected from the two databases, Ebsco Host and Elsevier Scopus, were verified. The 20 most relevant titles were found in the Ebsco Host database. The abstracts of the 10 most cited titles and the 10 most relevant ones from each database were read, coming to a total of 40 abstracts. Thus, the 20 most relevant titles selected according to the criteria adopted, are shown in Table 4.

Table 4: List of Selected Titles in the Databases

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Source: Authors, 2013

3. Results

The achieved results demonstrated that the organizations' attention is still focused on processes, projects, products and services, leaving out what makes them competitive: people. Entrepreneurial innovation management with a focus on people is the key to the research question presented here, however the literature on this topic rather refers to people management as a driver of business innovation. The present systematic review showed that innovation management can be conceptualized as a result of organizations that focus directly on their problems, and as a new way to come up with appropriate solutions. Innovation management is not characterized as a random event. The concept is also based on understandings of the last century, as (Betz, 1998) asserts by saying that the complexity of innovation management in companies results from the different systems in constant interaction within the innovation process. The same author also states that in order to reach the expected success in the innovation process it is necessary to combine some techniques, for instance organizational and systems analysis, planning and technology forecasting, project management, among others. However, it is not yet a perspective towards people.

One of the selected papers presented an Innovation Management System framework for managing the process of organizational innovation. Another paper presented an overview of innovation management through initiatives in several organizations, addressing the process of innovation in business processes, products and services. Eight papers presented innovative management processes involving products and services, and one of them is a case study where knowledge management is a support for innovation processes. Another paper presented a model for management of product innovation for small and medium enterprises. Another paper attempted to identify how companies of the medical, hospital and dental equipment sector in the city of Ribeirão Preto, Brazil, manage the innovation process, observing the profile and the evolution of technology management. Two papers addressed the question of innovation networks - one about logistics services and the other about agriculture. Another paper discussed the characteristics of innovative companies, classifying them according to the amount of innovations developed in business processes, products and services. Another paper discussed existing attributes in an organization involved with radical innovations in processes/products. Another paper examined how strategic planning can boost or hinder innovation. Another paper analyzed issues surrounding open innovation. And one more paper developed a framework for innovation based on behavioral aspects.

This systematic review has therefore observed that organizations tend to undermine this crucial aspect of innovation: people. Out of the twenty documents examined, only one dealt with innovation in a behavioral aspect, that is, related to individuals. Organizations can create advantage through people and through what is usually called talent, facilitating, enabling and encouraging the formulation of ideas and ideals, in a constant search for what is new, providing opportunities to build new products, processes etc., in other words, organizational innovation. An alternative was presented for organizational development guided by entrepreneurial innovation management with a focus on people, as a major factor for the model of innovative business management. Managing an organization based on innovation and competitive advantage with a focus on people shall be the path to success and achievement of results for any business that intends to grow and stay in the market.

4. Final Remarks

The environments in which the company is established and the sector in which it operates are influential factors for decisions about organizational innovation management. To fit the current globalized and competitive scenario, it is necessary to develop new perspectives, new ways of thinking, new knowledge and attitudes towards the people of the organization. This can be a tool to help maximize results and stay in the market, considering the fact that everything that is new implies a large amount of uncertainty.

In management, innovating is also thinking differently, and ultimately creating value. It is having an attitude to identify people's potential and needs. It is a constant search to understand and collaborate with tasks where current solutions no longer serve to achieve the results, in other words, it demands collaboration and empathy to validate people on a daily basis.

So, for entrepreneurial innovation management to collaborate with the organizational development, the manager entrepreneur must focus on identification of problems aiming at opportunities for innovation and creating something that makes sense to people in the organization. Based on the papers here investigated, it can be said that there is no attention on individuals as a major factor to deploy a new management model.

For an organization to be considered innovative, people need to contribute as an advantage and encourage innovation, since they have knowledge and make the company work. Organizational leaders must identify and strengthen their values and potentials, positively influencing entrepreneurial innovation management. In this perspective, it can be suggested empirical research focused on entrepreneurial management actions towards the employees' actions.

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